

**REMARKS**

Claims 1-26 are pending in this application of which claims 1, 14, 18 and 25 are independent. Following responsive submission to the Restriction Requirement, claims 1-17 were elected for prosecution and claims 18-20 were withdrawn from consideration. Claim 21-26 have been added. Clear support for these claims can be found in the specification.

**Objection to the Specification**

The Examiner objects to the title of the invention as being non-descriptive. Accordingly, the title has been amended to recite Bill Handling Machine For Determining Amount of Bills In Storage Boxes.

Amendment has been made to the Abstract in accordance with the Examiner's suggestion.

The Examiner suggests that the "Summary of Invention" heading should be moved from pg. 1 to pg. 2 of the disclosure. Amendment has been made in accordance with the Examiner's suggestion.

The Examiner suggests that on page 6, line 13, the pressure sensor is incorrectly designated by reference number 14. A drawing correction to Fig. 1 has been made to add numeral 14 and thereby resolve this discrepancy.

Applicant has addressed and presumably overcome all outstanding issues as regards the Specification. Withdrawal of the objections is respectfully solicited.

**Claim Objections**

The Examiner objects to use of the phrase "full-bill" found in claims 3 and 4. For clarity, these claims have been amended to recite --full state--.

As regards claim 4, the Examiner suggest deleting the word “and” from the phrase “and nor...” found in lines 9-10. Appropriate correction has been made.

As regards claim 8, the Examiner suggests inserting the word “wherein” before the word “when” in line 2. Claim 8 has been cancelled.

Applicant has addressed and presumably overcome all outstanding issues as regards objections to the claims. Withdrawal of the objections is respectfully solicited.

**Rejection under 35 U.S.C. §112, second paragraph**

The Examiner rejects claims 1-12, 16 and 17 under 35 U.S.C. §112, second paragraph, as being indefinite. This rejection is respectfully traversed.

Original claim 1 recites a control section that “drives said pushing plate...” The Examiner considers this language indefinite. Claim 1 has been amended to recite “said control section causes said pushing plate in said at least one of the plurality of storing boxes to move by a driving motor” which should resolve any indefiniteness perceived.

As regards claims 2 and 3, the Examiner questions what receives the claimed report. Claims 2 and 3 have been amended to recite “said control section notifies a higher level unit of an amount of bills ....” to resolve any indefiniteness perceived.

As regards claim 4, claim 4 has been rewritten. As such, the language with which the Examiner takes issue has been deleted, rendering the Examiner’s opposition to this language moot. It is respectfully submitted that the revised claim, specifying functional aspects of the control section in clear, concise terms is adequately definite.

Claims 5 and 6 have been cancelled, rendering the rejection of these claims moot.

Claim 7 has been amended to correct antecedent basis for the term “the number of bills.”

Claim 8 has been cancelled. Issues regarding this claim are now moot.

Claim 9 has been amended to correct antecedent basis for the terms “the number of bills” and “the amount of bills.” Furthermore, antecedent basis can be found in claim 1.

As regards claims 10 and 17, the Examiner takes issue with claim language for updating “the amount of bills stored...to the number of bills acquired from said storage box.” The Examiner alleges that the control section cannot update “unless it physically transfers bills to or away from the boxes, via the transport path.” To the contrary, specifying functional aspects in clear concise terms is adequately definite. Moreover, claim 10 has been amended and recites “control section replaces the amount of bills with the value indicating the amount of bills...”

Claim 17 has been amended to recite “wherein when said control section determines that a result of the comparison is within a predetermined range, said control section notifies a higher level unit of the amount of bills.” The language of claims 10 and 17 is clear and definite.

Moreover, the Examiner states:

The control system is doing computations inside itself, in/upon media that are not claimed, and the effects of which are not recited, or, if they are, there is no means by which they are effected. This last sentence applies to almost every 35 U.S.C. 112 rejection of almost every claim. Who cares what the control system determines? The apparatus is still the apparatus. The transport system is still the transport system. The pusher plate is still the pusher plate. The storing boxes are still the storing boxes. And, most importantly, the control section is still the control section, merely carrying a few binary digits or not, according to the words “again”, “divided”, “reports”. The only way these binary digits can be claimed is via a claim for a computer code, or by mentioning the structural elements which act upon these determinations, and how they act. Conceivably, any modern control system could be programmed to do almost any of the activities proposed in the claims.

It appears from the Examiner’s analysis that the Examiner does not follow legal tenets applicable to examining for indefiniteness. It is well known that not every conceivable element needs to be recited in a claim. Moreover, the Examiner alleges that computer code must be recited to claim binary digits. It is clear from the claims and specification that Applicant is not

attempting to claim binary digits. Rather, Applicant claims a control section configured to manage values representing amount of bills. The language of claims 10 and 17 is clear and definite.

As regards claim 12, the Examiner alleges that the claim terminology “re-set” and “beforehand registered” is meaningless. Claim 12 has been reworded to polish the claim language. The phrase “beforehand registered” has been changed to “previously registered.” It is clear from the claim language that the control section compares identifier information of the reinstalled storage box with the storing box identifier information previously registered. Claim language is clear and definite in claim 12.

As regards claim 16, the Examiner takes issue with the phrase “the amount of bills calculated before by using said pushing section.” The “before” phrase has been deleted. Claim 16 is clear and definite.

Applicant has addressed and presumably overcome all outstanding issues. Withdrawal of the indefiniteness rejection is respectfully solicited.

**Rejections under 35 U.S.C. §102**

The Examiner rejects claims 1-4, 14 and 15 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,524,268 to Fukatsu; rejects claims 1-7 12 and 13 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,099,423; and rejects claims 1-5 and 14 under 35 U.S.C. §102(b) as being anticipated by JP Patent No. 6-292467 to Yoshida. The rejections are respectfully traversed.

Rejection under 35 U.S.C. §102 citing Fukatsu

As regards Fukatsu, an automatic bank teller machine is disclosed for effectively managing bill surplus. The Examiner directs Applicant to columns 9-13 which allegedly disclose pushing plates and a control section that controls the pushing plates to detect an amount of bills stored therein. Applicant respectfully disagrees with the Examiner's characterization of the Fukatsu reference.

Fig. 13 of Fukatsu illustrates a bill storage section and a back plate 114 for urging a stack of vertically aligned bills against a bill dispensing mechanism 24. Backplate 115 includes a light shielding member, and optical sensors 123a-e detect backplate 115 as it changes positions. It is disclosed that the optical sensors are used to detect a position of backplate 114. Based on the fixed position of the optical sensors, an "end" level, "replenishable" level, "near-full" level and a "full" level are determined. The amount of bills stored in the storage boxes are tracked on a user transaction-by-transaction basis. Initially, the amount of bills in each storage section is *manually* entered into memory of the control system. (*Emphasis Added*). Fukatsu tracks the number of bills as they are dispensed from each storage box. When a sensor detects a position of the backplate 114 of the storage box, the number of bills dispensed is subtracted from the initial amount to calculate the number of remaining bills. However, there is no disclosure or suggestion of detecting the storage boxes in an attaching state, and moving a push plate of an attached box to detect the amount of bills stored therein.

For example, there is no disclosure or suggestion of the features recited by claim 1 as follows:

a storing box detecting unit for detecting an attaching state or a detaching state of at least one of the plurality of bill storing boxes;

a pushing plate detecting unit for detecting a position of said pushing plate; and

a control section, wherein:

when said storing box detecting unit detects that said at least one of the plurality of storage boxes is in the attaching state, said control section causes said pushing plate in said at least one of the plurality of storage boxes to move by a driving motor; and

said pushing plate detecting unit detects a position of said pushing plate for determining the amount of the bills stored in said at least one of the plurality of storage boxes.

Moreover, there is no disclosure or suggestion of “a storing box detecting unit for detecting an attaching/detaching state of at least one of the plurality of bill storing boxes; wherein when said storing box detecting unit detects that said storing box is in the attaching state, a control section controls a pushing section disposed in said storing box to push bills and thereby calculating an amount of bills stored in said storing box,” as amended claim 14 recites.

Claims depending from independent claims 1 or 14 are patentable at least based on dependency. The rejection of claims 1-4, 14 and 15 under 35 U.S.C. §102(b) as being anticipated by Fukatsu has been presumably overcome. Withdrawal of the rejection is respectfully solicited.

Rejection under 35 U.S.C. §102 citing Graef

Graef discloses means for determining an amount of bills remaining in a stack based on detection of a pusher plate. In column 9, lines 8-40, it is disclosed that a flag 96 mounted to pusher plate 36 contacts pin 88 for tracking pusher plate 36. As bills are depleted, pin 88 presses against button 25', and by counting the number of times pin 88 contacts button 25', an indication of the number of bills remaining in stack 30 can be obtained. Referring to col. 13, lines 27-33, it is explained that each time pin 88 presses button 25', a signal is generated and indicates that a “pre-established” document level has been reached.

Graef has the same deficiencies as does Fukatsu. Graef detects bills once they are depleted. There is no disclosure or suggestion of detecting the storage boxes in an attaching state, and moving a push plate of an attached storage box to detect the amount of bills stored therein, as amended claim 1 recites. Amended claim language has been reproduced above in the previous section, and is not repeated for sake of conciseness.

Claims depending from independent claim 1 are patentable over Graef at least based on dependency. The rejection of claims 1-7, 12 and 13 under 35 U.S.C. § 102(b) as being anticipated by Graef has been presumably overcome. Withdrawal of the rejection is respectfully solicited.

Rejection under 35 U.S.C. §102 citing Yoshida

Yoshida discloses a bill handling machine for detecting an amount of bills accumulated, in contrast to a number of bills depleted as disclosed by Fukatsu and Graef. As disclosed by Yoshida, when accumulation begins, an encoder counts the number of bills as they are accumulated and a corresponding value is stored in memory. Once the accumulated value is equal to or higher than a predefined threshold value, cassettes 13-15 are designated as near-full for further processing.

However, there is no disclosure or suggestion of the features recited by claim 1 as follows:

a storing box detecting unit for detecting an attaching state or a detaching state of at least one of the plurality of bill storing boxes;

a pushing plate detecting unit for detecting a position of said pushing plate; and

a control section, wherein:

when said storing box detecting unit detects that said at least one of the plurality of storage boxes is in the attaching state, said control section causes said pushing

plate in said at least one of the plurality of storage boxes to move by a driving motor; and

said pushing plate detecting unit detects a position of said pushing plate for determining the amount of the bills stored in said at least one of the plurality of storage boxes.

Moreover, there is no disclosure or suggestion of “a storing box detecting unit for detecting an attaching/detaching state of at least one of the plurality of bill storing boxes; wherein when said storing box detecting unit detects that said at least one of the plurality of storage boxes is in the attaching state, a control section controls a pushing section disposed in said storing box to push bills and thereby calculating an amount of bills stored in said storing box,” as amended claim 14 recites.

Claims depending from independent claims 1 or 14 are patentable at least based on dependency. The rejection of claims 1-5 and 14 under 35 U.S.C. §102(b) as being anticipated by Yoshida has been presumably overcome. Withdrawal of the rejection is respectfully solicited.

#### *New Claims*

New claims 25-26 relate to a method for detecting the amount of bills in a bill handling machine capable of attaching/detaching a plurality of storing boxes for storing bills. The features recited by these claims are neither disclosed nor suggested by Fukatsu, Graef or Yoshida:

detecting that at least one of the plurality of storing boxes is attached;

moving a pushing section disposed in said at least one of the plurality of storing boxes in a forward direction after detection by said first step;

detecting pressure by said pushing section and the bills due to movement by said moving step;

moving said pushing section in a reverse direction opposite the forward direction, when the pressure is detected by said detecting step; and



detecting the amount of bills stored in said at least one of the plurality of storing boxes on the basis of a position of said pushing section after the step of moving said pushing section in the reverse direction is performed.

New dependent claims 21-24 have also been added and are patentable based at least on dependency. No new matter has been entered.

All issues have been addressed and presumably overcome. Should the Examiner have any comments or questions regarding this response or the application in general, the Examiner is encouraged to contact the undersigned in order to expedite prosecution of this case.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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